

A B S T R A C T

There is disclosed a fuel electrode of solid oxide fuel cells which is made of a cermet composed of yttria-stabilized zirconia containing a transition metal dissolved therein and nickel (Ni) or a cermet composed of yttria-stabilized zirconia containing a transition metal dissolved therein, nickel (Ni) and cerium oxide containing a divalent or trivalent metal dissolved therein, and which can be obtained by adding a solution of a metallo-organic compound of yttrium (Y) and a solution of a metallo-organic transition-metal compound to a solution of a metallo-organic compound of zirconium (Zr) to prepare a mixed solution of metallo-organic compounds of Zr-Y-transition metal; adding NiO powder or a powder mixture of NiO powder with cerium oxide powder containing a divalent or trivalent metal oxide dissolved therein to the mixed solution of the metallo-organic compounds to prepare a slurry; and subjecting the slurry to hydrolysis, polycondensation, pyrolysis, annealing and reduction successively. The fuel electrode is formed on a solid electrolyte layer by a screen printing process.